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ABSTRACT

The bcoklet discusses the ccrcept cf environmental psychclcgy and suggests ways of applying envircnmental psychclcgy principles to education. A new field cf study, envircnmental psychology deals with influences of the physical environment on human attitudes and behavior. Cf potential use tc educatcrs cn all levels as they seek to use the physical envircnment to enhance educational programs, environmental psychology ccmprises these key ccrcepts: 1) symbolism, referring tc social meaning cf cbjects and their arrangement; 2) territoriality, achieving and exerting ccntrcl cver a particular segment of space; 3) privacy, comprising visual and acoustical separaticn; 4) ncnverbal ccmmunicaticn, imparting meaning through facial expressions, gestures, and cther kcdy ncvement; 5) individual differences regarding high, average, cr lcw sensitivity to the environment; and 6) cultural differences ccncerning ways in which various nationalities react to the envircnment. Teachers can introduce environmental psychology intc the classroom by asking students to respond to questions ccncerning seating arrarcements, room temperature, and furniture, and by directing students to analyze photographs of classrocm and recreaticnal envircnments. Ways in which teachers can apply principles of envircnmental psychclcgy in a school setting include changing seating arrargements tc suit class activities, providing unobstructed views cf the center cf activity for all students, using an cpen educaticn envircnment tc provide a variety of small private spaces, and using the schccl's heating plant, water supply system, and cafeteria tc study technolcgical and ecological topics. An annotated bibliography ccncludes the document. (Author/DB)

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Places and Spaces: Environmental Psychology in Education.
Fastback 112.

by

Mark Heyman

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Places and Spaces: Environmental Psychology in Education

By Mark Heyman

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What Is Environmental Psychology?

This fastback is about environmental psychology—the study of how spaces influence attitudes, emotions, and behavior—and the implications for education inside and outside the classroom.

Traditionally the contributions of psychology to education have been concerned with the individual and the social group. Environmental psychology directs our attention to the physical environment, an ever-present factor in the teaching/learning situation. Even though it is a new field of study, environmental psychology can be of help to teachers and administrators who want to use the physical environment to support and enhance educational programs at any level.

One way to study environmental psychology is to analyze well-known instances where the physical environment has obviously influenced the attitudes and behavior of the people involved. I have selected two examples: the Paris peace negotiations between the U.S. and North Vietnam in 1968, and some events in Chicago's City Hall following Mayor Richard J. Daley's death in 1976. The drama of these case studies provides appropriate background for considering concepts of environmental psychology and their application to schools and colleges.

In an attempt to arrange a peace settlement during the Vietnam war, almost two months of negotiations in Paris were devoted solely to the arrangement of tables and chairs in the conference room. In November, 1968, U.S. and North Vietnamese representatives were talking

to each other across a rectangular table, trying to agree on the physical arrangements that would also accommodate representatives of the Vietcong and of South Vietnam.

The principal difficulty in preventing agreement on such a simple matter as the shape of the table was the U.S. position that there were only two parties to the dispute. The Vietcong were seen as an appendage of North Vietnam, and under no circumstances would the U.S. recognize them as an autonomous military or political power. And from their side of the table, the North Vietnamese insisted that there were four parties to the dispute and that nothing less than a four-sided conference table would be appropriate.

After several weeks of stalemate, curved tables were considered. At one point, North Vietnam proposed a perfect circle around which the four parties could sit, each having equal status. The U.S. countered with varieties of curved tables which suggested that there were but two sides, as illustrated in Diagram A from *The New York Times* of December 14, 1968:

Diagram A

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More than a month later, in January, 1969, a compromise was found—a circular table with two small rectangular tables on opposite sides of, but not touching, the round table (see Diagram B). Notice how the small tables for secretaries were carefully separated from the round table by a specified 18 inches, thus preventing the round table from being clearly two-sided.

Diagram B

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It was the symbolism of the furniture arrangement that was at issue during those first 10 weeks of arguing. Did the arrangement of tables and chairs indicate that the war was being fought by two sides or by four? When all participants could accept a furniture arrangement representing their own answers to the question of how many parties were involved, they could sit down and talk about the war and peace.

When Richard J. Daley, mayor of Chicago and Cook County Democratic leader for almost a quarter of a century, died in 1976, the political jockeying in Chicago's city hall revealed strong evidence of the social meaning of space and things. The front page of the *Chicago Tribune* on December 24, 1976, reported:

I AM ACTING MAYOR: FROST
HE FINDS DALEY SUITE IS LOCKED

Alderman Wilson Frost declared Thursday that he is acting Chicago mayor until a special election can be held, but the City Hall leaders promptly disputed his claim. . . .

> While Frost was holding a news conference in the council chambers, black elected officials and community leaders were lobbying to get votes for him in Tuesday's election by the City Council of an interim mayor until a special election by city voters. . . .
>
> The scenario of the power thrusts made by Frost and his competitors included the tactical move of claiming territory.
>
> Frost announced he would meet with reporters in Daley's fifth-floor conference room, but the doors were locked, as were the other entrances to Daley's suite of offices.

The newspaper correctly observed that "the tactical move of claiming territory" was part of the political effort to gain power. The story later dealt with Alderman Edward Vrdolyak, who was also a leading contender for the post of interim mayor:

> Vrdolyak criticized Frost, with whom he has a close personal relationship, for wanting to use Daley's office for a news conference.
>
> "There are lots of places to hold a news conference. The mayor had personal effects in his office, and no one should go in there until the family can get them," he said.

Frost, Vrdolyak, and the others recognized that whoever occupies a place of power in a time of transition gains an advantage, and that the office and possessions of a recently deceased person have a special character that everyday events should respect.

The examples of *symbolism* in the case of the Paris peace negotiations and *territoriality* in the case of the Chicago mayoral succession are two key concepts in environmental psychology that will be developed more fully in the next section.

Key Concepts in Environmental Psychology

Environmental psychology originated in the late 1950s and early 1960s when architects and social scientists began to talk to each other. The architects were interested in how the social sciences might help explain people's reactions to their designs. The social scientists were interested in the social consequences of the work of the design professions. The question that interested both groups was: How do spaces influence attitudes, emotions, and behavior? (See the Bibliography for basic references in the field.)

Environmental psychology has attracted people from a number of other fields: architecture, anthropology, forestry, geography, housing, interior design, landscape architecture, psychology, sociology, and urban planning. A scholarly quarterly, *Environment and Behavior*, has been published since 1969. Since 1970, the Environmental Design Research Association (EDRA) has held annual conferences with published proceedings.

Given environmental psychology's short history, it is not possible to define the field precisely, but the six topics I will discuss—*symbolism, territoriality, privacy, nonverbal communication, individual differences*, and *cultural differences*—would probably be included in one form or another in most current descriptions of the field. Because of my interest in the practical uses of environmental psychology, these topics are probably more appropriate for an applied rather than a theoretical approach to environmental psychology.

Symbolism

As used here, symbolism refers to the social meaning of objects and their arrangement.

The issue of the furniture arrangement at the Paris peace conference is a dramatic example of symbolism, but equally significant symbolism is involved in everyday arrangement of furniture. One example of symbolism is found in the office. By "reading" the furniture in an office (as well as the location of the office in the building), we can learn important facts about its occupant. Usually there is a close relationship between the size of an office and its occupant's status in the organization. In many large organizations, public and private, the quality of a desk is directly related to its user's salary. This is sometimes true of even the wastebasket!

Another example is library carrels, which clearly appear to be intended for solo reading or writing, but not for talking. Ordinary library tables imply that we can read or write, but also talk with others even if a nearby sign says "Quiet."

In public buildings signs tell us what spaces are for—"Line Forms Here," "Information," "Please Wait for the Hostess"—but we also learn from the symbolism of the furnishings. We generally go where the furniture "tells" us to go. Desks, cabinets, counters, showcases, and even floor coverings communicate that *this* is for you, *this* is not for you. Employees and signs may give us this information in words, but the furniture communicates first.

Territoriality

Among the many definitions of territoriality, three that I like are 1) the act of laying claim to and defending an area, 2) the desire to possess and occupy portions of space, and 3) achieving and exerting control over a particular segment of space.

A decade ago *The Territorial Imperative*, a popular book by Robert Ardrey, brought wide attention to the subject of territoriality. Emphasizing animal studies of territoriality, Ardrey's book approached the subject from an evolutionary standpoint and raised the issue of a territoriality "instinct."

A common example of territoriality can be observed at a lunch

counter or other public place where strangers seat themselves. The second person to arrive usually takes a seat so that at least one empty place remains between him or her and the first person. The objective seems to be staking out one's own part of the counter or table, while not infringing on the first person's territory. Once seated, the boundaries of the territory are indicated by the placement of pocketbook, packages, or books, thus defining what territory the person will "defend."

The psychological mechanism behind this behavior may come from the feeling that one's "self" does not end precisely at the extremities of one's body. Apparently people feel that they are entitled to more personal space than that which they physically occupy, and they are uncomfortable when someone else moves into that space. Fortunately, other people's sense of territoriality usually keeps them at a reasonable distance.

Sociologist Erving Goffman has studied territoriality in terms of what he calls "front region" and "back region." Actors behave differently on stage than off, of course, but many occupations involve front region behavior that is significantly different from back region behavior. A waiter is usually somewhat formal in the restaurant and quite informal in the kitchen. A teacher behaves one way in the classroom and another way in the faculty room. Thus a front or back region is a type of territory that exists in a particular physical setting and affects the behavior of the people who enter it.

Privacy

Privacy is an even more widely recognized concept than territoriality. A definition of privacy that I like is "selective control of access to the self or to one's group." A narrower definition is "visual and acoustical separation."

Privacy is achieved by establishing a barrier to sight or sound, or by withholding knowledge of one's actions through other means. The method of sight and sound barriers needs no elaboration; the "withholding" method refers to preventing others from knowing what one has done by not informing them. An example: Parent asks, "Where did you go?" Child replies, "Out." Parent asks, "What did you do?" Child replies, "Nothing."

Privacy is a universal need, but there must be a balance between privacy and interaction. There are limits to how much privacy one can have before one becomes a hermit. On the other hand, excessive interaction limits privacy.

There is little opportunity for privacy in the standard classroom, either for the student or the teacher. One physical change in classrooms that provides a measure of privacy, especially for younger children, is the provision of "private offices"—semi-enclosed individual spaces. In many of their new buildings and remodeled old ones, the British primary schools contain a variety of spaces, some defined by furniture, that provide privacy for individuals or groups of children.

Nonverbal Communication

Nonverbal communication is communication through facial expressions, gestures, and other body movement. This "quiet communication" or "silent language" augments verbal communication, but it is also used separately and silently.

Furniture arrangement influences nonverbal communication, as does the way people arrange themselves. Unobstructed sight is necessary for nonverbal communication. If people cannot see each other, nonverbal communication is diminished.

Consider how chairs are arranged for a discussion. In an arrangement in which all students are facing only the teacher, class discussion is inhibited because nonverbal communication among students is at a minimum. One solution is to form a circle so that everyone can see everyone else's face, hands, and body.

Some teachers favor the traditional classroom arrangement of "all eyes front" because they want to minimize nonverbal communication among students. Some will justify this arrangement with the comment, "It prevents students from making faces at each other."

Even when there is a clear sight line, distance diminishes nonverbal communication because the ability to see detail decreases with distance. The crinkling around the eyes, for example, cannot be perceived across a room, although body and hand movements can be.

Individual Differences

Generalizing about people is a precarious occupation; the human

species is amazingly diverse. As in any other field of study about human beings, the generalizations about symbolism, territoriality, privacy, and nonverbal communication must be tempered by consideration for individual differences.

This caution is especially important in education, because learning is an individual affair. Careful attention to each student's personality, knowledge, and interests is critical to his or her ability to learn. In the application of environmental psychology to education, the individual's characteristics may be more important than a general principle stating that "this is the way people behave" or "this physical arrangement is best for people." As a practical matter, attention to individual differences should encourage us to provide diversity in the classroom, whether it be with respect to the physical environment or to the teaching methods.

Individuals vary in the degree to which the physical environment affects them; some people are more aware of the environment than others. The terms "screener" and "nonscreener" have been used to contrast the two ends of a scale of sensitivity to the environment. An environment that may be objectionable (or desirable) to you may be neutral to me simply because I am more of a screener; the qualities that affect your perception do not even command my attention. For example, I may not be bothered by a noise that is driving you batty.

Educators should also be aware of the differences in need for order. Some people are comfortable only when "everything has a place and everything is in its place," when the physical environment is unequivocally labeled and assigned. Others do not mind disorder and may even be uncomfortable in a highly ordered environment. "Too neat," they think. "There's no place here for me and my activities." Children and youth are no different from adults and vary in their toleration of degrees of neatness and disorder.

Another difference between individuals is in how much space they use for ordinary activities. One child takes off his coat when standing in one place, puts his books carefully on his desk, and then sits still while listening or talking. Another moves about while removing his coat, arrays his books across his desk, and is in frequent motion, even while sitting. Adults also exhibit similar differences in how they be-

have in their work places, as a casual observation of your co-workers will reveal.

The uniqueness of people's reactions to spaces and objects suggests that the typical uniform institutional environment is inappropriate for many people and is probably a contributing factor to school discipline problems.

Cultural Differences

Anthropologist Edward Hall pioneered in the study of how different nationalities react to the physical environment. Based on close observation and study of many cultures, his descriptions make fascinating reading (see *The Hidden Dimension*). Here is a sampling of his many observations:

> Englishmen will stay far enough away from whomever they are talking to so that they can look steadily into both eyes.
>
> Arabs involve the sense of smell in interpersonal communication and therefore stand much closer to each other than Americans do.
>
> Germans frequently shut their office doors, while Americans often suspect that a closed door indicates that an office conspiracy is afoot.

Cultural differences within the U.S.—now gaining increasing recognition as "cultural pluralism" or "ethnic diversity"—should be considered by the teacher as carefully as individual differences. But the fact that a classroom has two cultural groups shouldn't lead to the conclusion that there are but two needs with respect to space in the classroom; individual differences continue to exist.

Thinking About Your Environment

If you want to use environmental psychology in the classroom, it is advisable to sharpen your powers of observation. Try to answer these questions for the environment you are now in:

What are the walls, floor, and ceiling like?

What do you see out of the windows?

What is the furniture like?

Where are you sitting? Why did you choose this spot?

What is the lighting where you are?

What is the lighting in the rest of the room?

Are you warm, cold, or just right?

Is the air fresh or stuffy?

What colors do you notice?

Try this exercise at other times, in other places. An increased awareness of the environment will help you in applying the concepts of environmental psychology.

Now consider your own classroom and its characteristics just as you examined the place where you are now. Make a mental inventory of what you could see, touch, and hear, and answer the questions you have already answered about your present environment.

As you consider the environmental characteristics of your classroom, you will probably think of some as "good" and some as "bad." Every person judges his or her environment and decides what pleases

and what doesn't. But note that you are the one making the judgments. What about the other people who use the room--the students and perhaps other teachers? Knowing how people differ, isn't it likely that not everyone will agree on what is good and what is bad? People differ in how they react to their physical environment, and just as we need to allow for individual differences with respect to learning, we need to allow for individual differences with respect to the physical environment.

There are things about your classroom that you cannot change—for example, the walls and the windows. But there are things that you can change: the furniture and its arrangement, wall and floor coverings, everything portable. Call these two aspects of a room the "fixed features" and the "changeable features." If you want to make the physical environment work for you, it is important to learn as much as you can about the changeable features and the many ways that they can be changed, either by you alone or with a little help.

Some environmental aspects to consider as you inventory your own classroom are temperature, lighting, and sound. The skin is our largest sensory organ, and we are sensitive to temperature and air flow; we are often aware of stuffiness or freshness. Natural and artificial light in an environment for learning should be appropriate to the specific tasks; discussion and reading require different lighting. Sound is usually considered an issue when there is too much, but there is more to sound than that. Every room has its own acoustical quality. It can be varied somewhat by managing its changeable features, especially furniture, carpeting, and wall coverings.

Classrooms in the same school are usually similar to each other; the "egg crate" school assumes that its contents are as uniform as eggs. This sameness-among-many-units gives schools an institutional quality. Though uniformity makes some functions such as cleaning easier, consider how uniformity influences the human processes. Institutionalization of our classroom environment is a hindrance in our efforts to regard each person—each student and each teacher—as an individual. Much more variety in the physical environment of the school is needed if we want to respect human variety.

Studying Environmental Psychology Through Photographs

In this section we will look at a variety of school and college environments by means of photographs and captions. We really need motion pictures to see how people react to spaces, but the captions will help in understanding practical applications of environmental psychology.

Color (missing from these photographs) is an environmental factor also. Knowing how individuals differ, we cannot always expect agreement on which colors are pleasant, but reasonable compromises can be achieved, and we certainly can avoid both extreme colors and traditional institutional colors. A variety of colors should be used in a school to avoid monotony.

Walter McQuade tells an anecdote about a young child who exhibited much enthusiasm for her new classroom. When asked why she liked the room, she replied with a ringing, "This room says yes!" How many classrooms can make that statement? The following photo essay shows why some classrooms say yes and some say no.

An informal discussion in a constricted space during a class intermission. The participants have located themselves so that they can readily adjust interpersonal distances; no one's "back is to the wall." The spacing suggests that the man at left is the instructor.

The three men at the left with their forearms resting on the table are unconsciously signaling increased interest; without a table, this might not have been as evident. Compare the effect of a square table with that of a circular table: in the round, one's role is less well defined, because there are no "sides" to the situation (recall the Vietnam peace table.)

Circular seating maximizes communication, but those closest to the speaker must turn their heads sharply in order to see him. Or, like the woman at right, they can just lie back for the time being. The baby seems tuned to another channel!

When there are no rules, adolescents (and others) will use furnishings as they see fit. The environment says to these kids, "Get comfortable"—and they do. Where there is no provision for hanging outer garments, they can be used as pillows.

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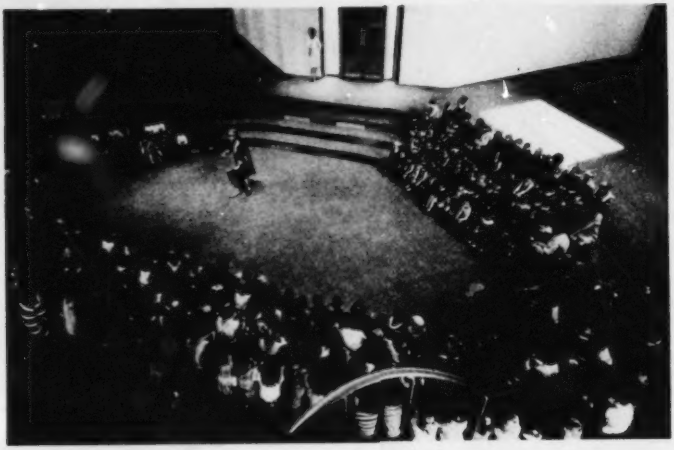
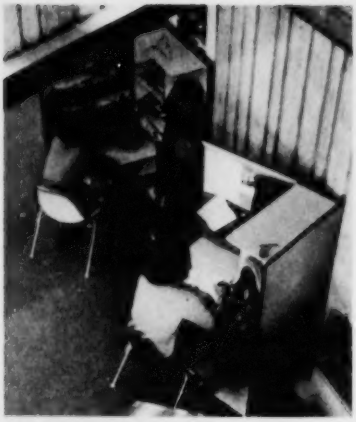
The children at the edges of the group are easily distracted, either because they are in a poor position to see and hear, or because they are not much interested in the activity—or possibly both.

A U-shaped arrangement with this many students (and several empty places) results in excessive distances. Face-to-face interaction is possible, but the distances diminish the effectiveness of nonverbal communication.

When the activity is compelling (and clearly visible), almost everyone will pay close attention. The "pit" seating provides some of the atmosphere of a theater. A good deal of teaching is not unlike drama.



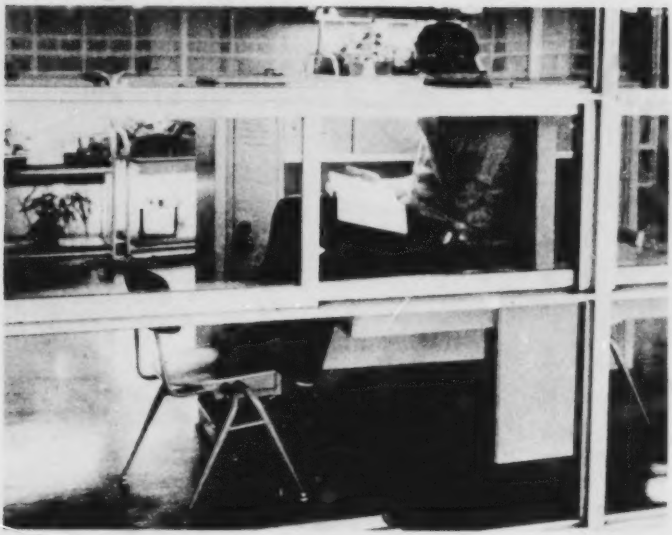


Two types of "private offices" for students; the one for the older students can be locked and moved. In both cases, surveillance by a teacher is difficult, but the student's privacy is protected. If a school had these private spaces, would more students stay and do their homework in school, because they could socialize and discuss it with peers?

Many schools provide a harsh environment. The colors may be pleasant, but paint cannot do much for these halls. It is chastening to consider that when this school was built experts thought that this was a proper environment.

In both situations there seem to be no physical obstacles to participation, and so an ordinary, uncomplicated environment with sufficient space is supportive. But the apparent high level of interest is an important factor in assessing the environment here.

People will occasionally use furniture in ways other than the designers and the institutions intended, especially when they are very deeply involved in their tasks.



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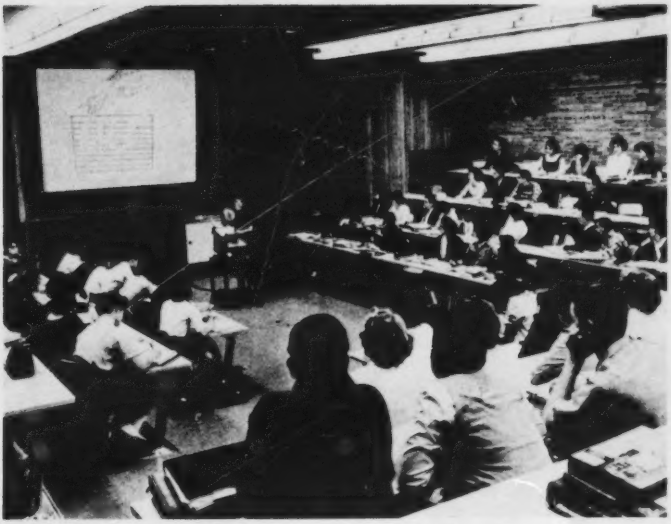
The portable bin alternative to private desks involves more responsibility on the part of the students. On balance, I don't think that territoriality or privacy needs are affected; the bin "belongs" to the student, instead of a desk.

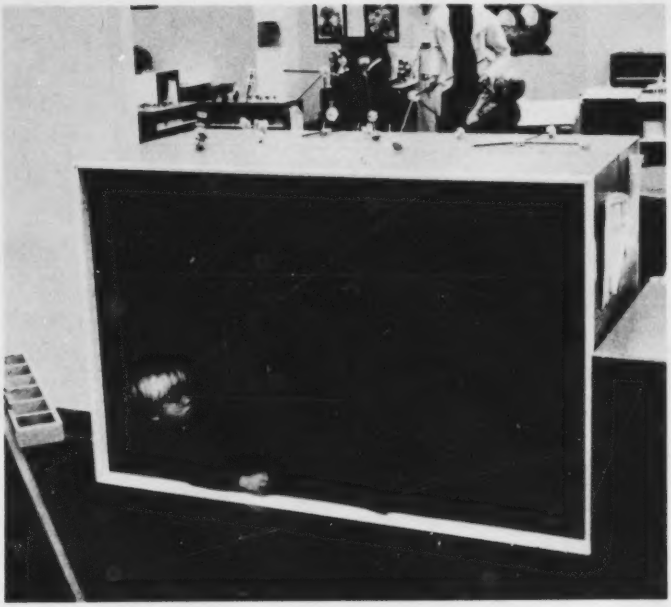
An open door signals that this type of interruption is permitted. Compare the inside of this office with the moveable "offices" of the high school students on p. 24.

The student who appears to be sleeping is actually listening. In an informal setting the customary signs of paying attention may not be correct. But even by conventional standards most of the other students are paying close attention to the teacher. The circle supports nonverbal communication.

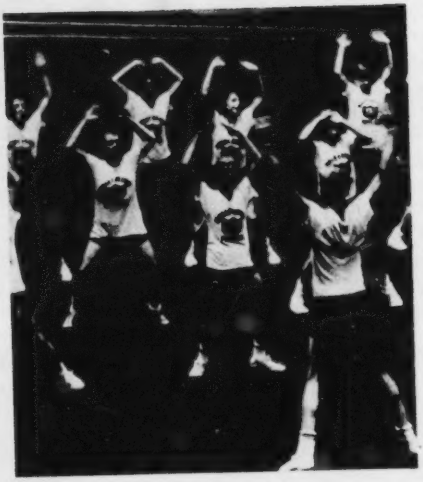
Here are four efforts to improve communication over that usually found in the conventional classroom. Bringing the students closer to the teacher (and screen) and having unobstructed sight lines improves communication, especially nonverbal communication. In addition, where students face students the environment for class discussion is improved.



Here are some examples of little children's search for solitary confinement. Whether this is evidence of the need for privacy or a desire to return to the womb, is arguable, but we can agree that the interest is very strong. How many classrooms for young children recognize this in their furnishings?



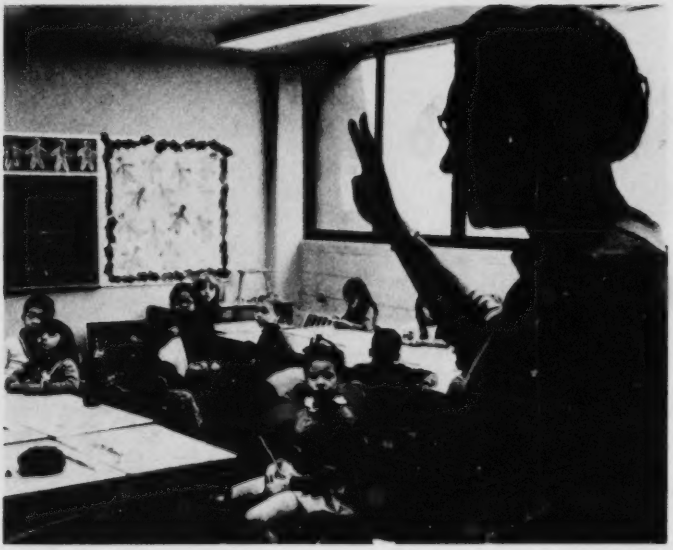
Many school cafeterias are noisy and adequate only for quick eating. They provide socializing opportunities, but the pace and the sound quality are handicaps to relaxed interaction. If the cafeteria is regarded as an integral part of the learning environment, more attention will be paid to its physical characteristics.



When all that an activity requires is a flat floor and ample space, it is a relatively simple matter to provide the appropriate environment.

A laboratory (or drafting room, in this instance) can also be used as a lecture-discussion space. The convenience of combining both functions in one room outweighs the lack of flexibility in furniture arrangement in this case. Fortunately, here the chairs are on casters, making their movement easy and quiet.

A reminder about individual differences!



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From the plant at left to the telephone at right, this situation symbolizes limited involvement, probably because there are many students to be seen.

A not uncommon classroom. The arrangement inhibits communication among students.

Some Educational Applications

This final section discusses several ideas in environmental psychology as applied to education. The Bibliography will be useful for a continuing study of environmental psychology, but reading about it is no substitute for actually doing something about it in your school.

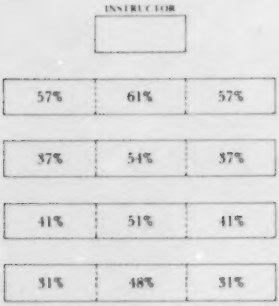
Seating Location and Participation

The conventional classroom seating arrangement of straight rows has been studied at length. Out of these studies has come a general principle of participation with respect to location which, now that it has been exposed, seems obvious.

Robert Sommer, a pioneer in environmental psychology, has studied this phenomenon in depth. By recording students' voluntary participation from different parts of the classroom, he has documented what most teachers have learned through experience: Students who are in the front of the room and those in the centers of the rows participate more than other students. Diagram C shows that participation decreases with distance from the teacher and with distance from the center of the rows. This effect is less noticeable when students are assigned seats randomly, but even then it exists.

Teachers have long used the practice of shifting troublesome students to keep them under close watch, but they are not always aware that students in different areas of the room have differing opportunities to watch and to interact with the teacher. Once a teacher gains a full understanding of this fact, he or she can apply the principle by either modifying seating assignments or by allowing voluntary seating.

Diagram C



Ecology of Participation in Straight-Row Classrooms

(From *Personal Space*, by Robert Sommer. Englewood Cliffs, N.J.: Prentice-Hall, 1969, p. 118. Reprinted with permission.)

Teachers might want to experiment with changing the seating assignments during a course or unit of study, either to learn which arrangement works better for a particular instructional approach or to provide variety for the students. Students can make new friends as a result of a change in seating arrangement, and teachers can—within limits—influence this important function of the school.

Looking Up at the Teacher

In many classrooms the students sit and the teacher stands. In order to see the teacher's face, students look up rather than straight ahead or down. The most favored angle is between level sight (zero degrees) and minus 15 degrees. And more important, the preference curve drops sharply as the sight angle rises above the horizontal. This preference is one reason that the front row of many meeting rooms is usually left vacant; it demands a very high "up angle." It is also the reason why some lecture rooms have banked floors that provide an unobstructed downward sight angle from the back. In some small cinemas the front row seats are tilted back to reduce the viewing angle.

In the classroom one way to deal with this problem is for the teacher

to sit down (not on a desk, which may not lower his or her head height) and to stagger the student seating so that no one's vision is blocked. Another approach would be deliberately to keep the front row vacant (if the room has more seats than students).

Students between two and four feet tall present a special case. The temptation is to stay above the very young students in order to maintain surveillance, but this asks the children to look up sharply. Getting down to their level on occasion is a well-known strategy, and it should be done as much as possible. It is also useful to discover what the world looks like from down there. Teachers of small children, in my opinion, should spend a significant part of the day at their students' level to learn how the classroom environment appears to them.

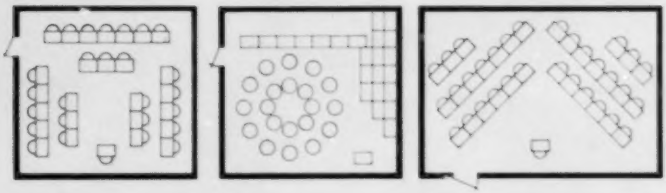
About Seating Arrangements

Unless desks are bolted to the floor, the seating arrangement of a classroom is one of the changeable features that a teacher can easily modify to achieve educational objectives. A myriad of arrangements is possible within the limitations of available space and types of furniture.

Some elementary school teachers arrange their classrooms in groups of four or six desks or tables. Some periodically change the furniture arrangement. Some teachers have discarded personal stations completely; they use the open classroom approach of learning centers devoted to special interests or projects to which children go with the approval of or at the direction of the teacher. Because of young children's greater need for movement, it is necessary to allow them to move frequently. If the various places within the room are appropriately furnished for their various activities, this movement makes sense. Sitting on the floor for reading or discussion should be one of the possibilities in the elementary classroom.

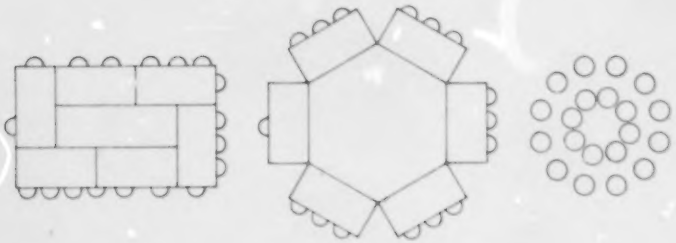
In a school that is departmentally organized with students moving from class to class, one's options are limited, but some innovation is still possible. Diagram D shows three arrangements for discussion-centered learning. The arrangement of the chairs in a circle as in the middle diagram can be made during the class hour; such a shift can be made in a few minutes.

Diagram D



Smaller classes usually have more options but this doesn't mean that they are more frequently exercised. Diagram E shows some arrangements for classes of 10 to 20 students where discussion is desired. The two-circle "fishbowl" arrangement on the right can be used effectively in this way: Those who want to begin the discussion sit in the inner circle; after a few minutes those in the outer circle can enter the discussion by taking vacant seats in the inner circle for as long as they wish to participate in the discussion.

Diagram E



Open Spaces and Open Education

Many people confuse *open space* schools—schools with no interior walls—with *open education*, a method of teaching that can be used within the regular four-walled classroom. Briefly, open education im-

plies that students work on varied projects in small groups or individually and the teacher moves from group to group. On occasion the teacher works with the entire class. (See Phi Delta Kappa fastback #3, *Open Education: Promise and Problems*, by Vito Perrone, and *The Open Classroom*, by Herbert Kohl.)

In the British primary schools where the open education approach is widespread, the schools vary a great deal in layout. In their new buildings and in their remodeled older ones, the British provide a variety of small spaces, usually alcoves off a larger room and furniture-defined spaces where small groups of children can work with some measure of privacy.

A frequent criticism of open education is the lack of assigned desks. However, the sense of security (or territoriality) that comes from having "a place of one's own" and a place to store one's things is achieved by providing bins or portable drawers. Even more important in open education is the need to develop a social environment in which the student considers the entire room—not simply one desk—as his or hers. Achieving this sense of belonging is no simple matter, but once achieved it diminishes the need for assigned desks and has important consequences for learning.

Outside the Classroom

There is more to a school than just classrooms. The cafeteria, offices, auditorium, halls, and school grounds are usually thought of as auxiliary or support spaces, but they too should be considered as learning places with implications for the school's educational objectives.

Mark Terry,* a high school teacher, has described how the entire school plant can be regarded as an environment—physical and social—that can be used as a learning tool. He suggests using the school's heating plant, water supply system, and cafeteria to study relevant scientific, technological, and ecological topics. Another example of a school's environment is its communication system, including the library, public address system, and bulletin boards. Certainly when one expands the classroom to other spaces in and around the school, one has a richer environment for analysis and study.

*See Bibliography.

A Final Word by John Dewey

We close this fastback with the thought that while environmental psychology is a new field of study, the concerns discussed here have been around a long time, as John Dewey reminds us in his observations below:

> Some few years ago I was looking about the school supply stores in the city, trying to find desks and chairs which seemed thoroughly suitable from all points of view—artistic, hygienic, educational—to the needs of the children. We had a great deal of difficulty in finding what we needed, and finally one dealer, more intelligent than the rest, made this remark: "I am afraid we have not what you want. You want something at which the children may work; these are all for listening." That tells the story of the traditional education. Just as the biologist can take a bone or two and reconstruct the whole animal, so, if we put before the mind's eye the ordinary schoolroom, with its rows of ugly desks placed in geometrical order, crowded together so that there shall be as little moving room as possible, desks almost all of the same size, with just enough space to hold books, pencils, and paper, and add a table, some chairs, the bare walls, and possibly a few pictures, we can reconstruct the only educational activity that can possibly go on in such a place. It is all made "for listening"—because simply studying lessons out of a book is only another kind of listening; it marks the dependency of

one mind upon another. The attitude of listening means, comparatively speaking, passivity, absorption; that there are certain ready-made materials which are there, which have been prepared by the school superintendent, the board, the teacher, and of which the child is to take in as much as possible in the least possible time. There is very little place in the traditional schoolroom for the child to work. . . . (*The School and Society*, 1900.)

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Annotated Bibliography

There is a growing literature about environmental psychology, much of it not titled or indexed as such. The items listed here were selected and annotated especially for readers with little previous exposure to the subject.

The readings in the **General** category expand on the basic principles of environmental psychology discussed in this fastback and provide many references to additional sources. The **Educational Applications** category lists both theoretical and practical material on the use of environmental psychology in education.

General

Bachelard, Gaston. *The Poetics of Space*. Boston: Beacon Press, 1969.

A distinguished French philosopher discourses on the house, the hut, the nest, the shell, etc. References to dreams and fiction.

Bechtel, Robert. *Enclosing Behavior*. Stroudsburg, Pa: Dowden, Hutchinson & Ross, Inc., 1977.

A concise introduction to "ecological psychology," which predates environmental psychology. Many photographs and diagrams.

Cooper, Henry, Jr. *A House in Space*. New York: Holt, Rinehart & Winston, 1976.

The detailed, personal experiences of the three crews that inhabited Skylab, a unique physical environment, for weeks at a time. Many photographs of the Skylab interior.

Environment and Behavior. Beverly Hills: Sage Publications.

An international quarterly concerned with the study, design, and control of the physical environment and its interaction with human behavioral systems.

Goffman, Erving. *Relations in Public: Micro Studies of the Public Order*. New York: Basic Books, 1971.

Sociologist Goffman has specialized in analyzing public face-to-face interaction and its social and physical character. Although theoretical, his writing includes many everyday examples. See also his *Presentation of Self in Everyday Life* (1959), *Behavior in Public Places* (1963), and *Interaction Ritual* (1967).

Goodman, Paul. "Seating Arrangements: An Elementary Lecture in Functional Planning." In *Utopian Essays and Practical Proposals*, edited by Paul Goodman. New York: Vintage, 1964.

Concise, illustrated essay on the human significance of seating arrangements in a variety of activities: psychotherapy, religious services, eating, legislatures, university events, and theater.

Gutman, Robert, ed. *People and Buildings*. New York: Basic Books, 1972.

A sociologist who specializes in the application of social science to design has selected 26 major articles and links them with short, interpretive essays.

Hall, Edward. *The Hidden Dimension*. Garden City: Doubleday, 1969.

A short, popular introduction to social and personal space, and man's

perception of it by an anthropologist who has pioneered in *proxemics*, his term for environmental psychology. Photographs.

Ittelson, William, et al. *An Introduction to Environmental Psychology*. New York: Holt, Rinehart and Winston, 1974.

A textbook on environmental psychology by members of the faculty of the City University of New York, which offers the only doctoral program on the subject.

Proshansky, Harold, et al., eds. *Environmental Psychology: People and Their Physical Settings*. 2d ed. New York: Holt, Rinehart and Winston, 1976.

A major anthology by members of the City University of New York faculty. See also the 1970 edition, which includes "The Physical Setting and Its Influence on Learning," by Elizabeth Richardson.

Rasmussen, Steen Eiler. *Experiencing Architecture*. Cambridge: M.I.T. Press, 1962.

A stimulating short book by a humanist/architect on the basic elements of architecture. Among the topics are scale, color, texture, daylight, sound, solids, and cavities. Photographs on almost every page.

Saarinen, Thomas. *Environmental Planning: Perception and Behavior*. Boston: Houghton Mifflin, 1976.

A well-written textbook by a geographer on spaces from the scale of the room all the way up to the world. More social science than planning.

Sommer, Robert. *Personal Space: The Behavioral Basis of Design*. Englewood Cliffs: Prentice-Hall, 1969.

An introduction to environmental psychology by a pioneer investigator. See especially, "Designed for Learning." Other special chapters are devoted to mental hospitals, taverns, and college dormitories. Also see his *Design Awareness* (1972), and *Tight Spaces: Hard Architecture and How To Humanize It* (1974).

Stone, Donald, and Stone, Alice. "The Administration of Chairs." *Public Administration Review* (January/February, 1974).

A humorous article (with serious intentions) about seating arrangements for seminars, conferences, and church and other meetings. Illustrated.

Your Space and Mine: A Behavioral Approach to Environments. New York: J. C. Penney Co., 1975.

Audiovisual kit appropriate for ages 10 through adult. A half-hour filmstrip/cassette surveys the basics of environmental psychology with some humor. Fourteen "Awareness Activity" leaflets.

Educational Applications

Barker, Roger, and Gump, Paul. *Big School, Small School: High School Size and Student Behavior*. Stanford: Stanford University Press, 1964.

A study that concludes that a small school provides significantly more opportunities *per student* for participation. "A school should be small enough that students are not redundant." Barker is the founder of "ecological psychology."

Bettelheim, Bruno. *A Home for the Heart*. New York: Knopf, 1973.

The story of a therapeutic community for schizophrenic and autistic

children that involves considerable discussion of the special physical environment. The paperback edition (Bantam, 1975) has fewer illustrations.

Coates, Gary, ed. *Alternative Learning Environments*. Stroudsburg, Pa.: Dowden, Hutchinson & Ross, Inc., 1974.

Twenty-nine articles on the physical environment of learning, including "Educating for Design," "Alternative Schools," "Outdoor Play-Learning Environments," "The City as an Open Learning Environment," and "Environmental Evaluation."

David, Thomas, and Wright, Benjamin, eds. *Learning Environments*. Chicago: University of Chicago Press, 1975.

An excellent collection of 16 short articles on the physical environment of learning from *School Review* (August, 1974).

Eriksen, Aase. *Learning About the Built Environment*. New York: Educational Facilities Laboratories, 1974.

A catalog of resources for education about the built environment. Also see EFL's *Educational Change and Architectural Consequences, High School: The Process and the Place, Patterns for Designing Children's Centers, Places and Things for Experimental Schools* (see below), and *School Renewal*.

Kohl, Herbert. *The Open Classroom: A Practical Guide to a New Way of Teaching*. New York: Random House, 1969.

Words of wisdom on the open classroom by a master teacher. Thirteen pages are devoted to the physical environment. See also Kohl's *36 Children*.

Molloy, Laurence. *Places and Things for Experimental Schools*. New York: Educational Facilities Laboratories, 1972.

A nationwide survey of innovative uses of educational facilities, new and old, with hundreds of photographs and sketches.

"The New Schoolhouse." A special issue of *The National Elementary School Principal* (September, 1972).

Twenty-five illustrated articles, including "Training Teachers to Work in Open Space," "New Life for Old Schools," and "Noninstitutional School Furniture."

Palmer, Richard. *Space, Time and Grouping*. New York: Citation Press, 1971.

A 60-page description of how British elementary schools deal with these components in the informal classroom. Illustrated. See also *Trends in School Design* by Eric Pearson in the same series.

Rogers, Vincent, ed. "The Unrecognized Environmental Curriculum." A special issue of the *Phi Delta Kappan* 56 (January, 1975).

Seventeen articles on the physical environment of education.

Terry, Mark. *Teaching for Survival: A Handbook for Environmental Education*. New York: Ballantine Books, 1971.

How to teach ecology by using the environments of the classroom, the school, and the neighborhood.

Wurman, Richard, ed. *Yellow Pages of Learning Resources*. Cambridge: M.I.T. Press, 1972.

Practical suggestions on how to learn from people and places outside of schools. Can be read by children and adolescents, as well as teachers and administrators.

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